## ABSTRACT

There is disclosed a method for moving a carriage assembly from an initial position to a target position relative to a storage medium rotating at a circumferential velocity. The method comprises the steps of determining a first radial distance 5 between the initial position and a center of the storage medium, determining a second radial distance between the target position and the center of the storage medium, determining a circumferential distance between the initial position and the target position, determining an initial circumferential velocity of the storage medium, calculating a velocity trajectory relative to the first radial distance, the second radial distance, the circumferential distance, and the initial circumferential velocity, and moving the carriage assembly from the initial position to the target position substantially at the velocity 15 trajectory. The velocity trajectory is calculated such that the carriage assembly will arrive radially and circumferentially at the target position at substantially the same time. Additionally, a target circumferential velocity may be 20 determined, the rotation of the storage medium may be changed from the initial circumferential velocity to the target circumferential velocity, and the velocity trajectory is further related to the target circumferential velocity.